



Inter-Mountain Labs

1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

Your Environmental Monitoring Partner

Date: 8/3/2017

**CLIENT:** Consolidated Analytical Systems  
**Project:** S.H. Bell-Chicago, IL  
**Lab Order:** S1707421

**CASE NARRATIVE**  
**Report ID:** S1707421001

Sample 527.171 S4HV1-071817-R was received on July 25, 2017.

All samples were received and analyzed within the EPA recommended holding times, except those noted below in this case narrative. Samples were analyzed using the methods outlined in the following references:

"Standard Methods For The Examination of Water and Wastewater", approved method versions  
Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition  
40 CFR Parts 136 and 141  
40 CFR Part 50, Appendices B, J, L, and O  
Methods indicated in the Methods Update Rule published in the Federal Register Friday, May 18, 2012  
ASTM approved and recognized standards

All Quality Control parameters met the acceptance criteria defined by EPA and Inter-Mountain Laboratories except as indicated in this case narrative.

Reviewed by:

A handwritten signature in cursive script that reads 'John M. Jacobs'.

John Jacobs, Project Manager



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**Sample Analysis Report****CLIENT:** Consolidated Analytical Systems

201 S. Miami Ave

Cleves, OH 45002

**Date Reported:** 8/3/2017**Report ID:** S1707421001**Client Sample ID:** 527.171 S4HV1-071817-R**Project:** S.H. Bell-Chicago, IL**Matrix:** airfilter**COC ID:** WEB 10127**Collection Date:** 7/18/2017**Date Received:** 7/25/2017 10:30:00 AM**Lab ID:** S1707421-001**Work Order:** S1707421

| Analyses                           | Result | RL    | MDL      | Qual | Units             | Method | Date Analyzed/Init |
|------------------------------------|--------|-------|----------|------|-------------------|--------|--------------------|
| <b>Field</b>                       |        |       |          |      |                   |        |                    |
| Actual Volume                      | 1665   |       |          |      | m <sup>3</sup>    | Field  | 07/18/2017 000     |
| <b>IO-3.5 TSP</b>                  |        |       |          |      |                   |        |                    |
| Arsenic                            | 2.81   | 5     | 0.628    | J    | µg/Filter         | IO-3.5 | 07/31/2017 1559 MS |
| Cadmium                            | 1.09   | 5     | 0.19     | J    | µg/Filter         | IO-3.5 | 07/31/2017 1559 MS |
| Chromium                           | 57     | 5     | 0.165    |      | µg/Filter         | IO-3.5 | 07/31/2017 1559 MS |
| Lead                               | 21     | 5     | 0.00999  |      | µg/Filter         | IO-3.5 | 07/31/2017 1559 MS |
| Manganese                          | 657    | 5     | 0.0535   |      | µg/Filter         | IO-3.5 | 07/31/2017 1559 MS |
| Nickel                             | 6      | 5     | 0.16     |      | µg/Filter         | IO-3.5 | 07/31/2017 1559 MS |
| Vanadium                           | 4.20   | 5     | 0.388    | J    | µg/Filter         | IO-3.5 | 07/31/2017 1559 MS |
| <b>Filter Metals Concentration</b> |        |       |          |      |                   |        |                    |
| Arsenic                            | 1.69   | 3     | 0.377    | J    | ng/m <sup>3</sup> | IO-3.5 | 08/03/2017 1416 JJ |
| Cadmium                            | 0.657  | 3     | 0.114    | J    | ng/m <sup>3</sup> | IO-3.5 | 08/03/2017 1416 JJ |
| Chromium                           | 34     | 3     | 0.0991   |      | ng/m <sup>3</sup> | IO-3.5 | 08/03/2017 1416 JJ |
| Lead                               | 0.013  | 0.003 | 0.000006 |      | µg/m <sup>3</sup> | IO-3.5 | 08/03/2017 1416 JJ |
| Manganese                          | 394    | 3     | 0.0321   |      | ng/m <sup>3</sup> | IO-3.5 | 08/03/2017 1416 JJ |
| Nickel                             | 4      | 3     | 0.0961   |      | ng/m <sup>3</sup> | IO-3.5 | 08/03/2017 1416 JJ |
| Vanadium                           | 2.52   | 3     | 0.233    | J    | ng/m <sup>3</sup> | IO-3.5 | 08/03/2017 1416 JJ |

**These results apply only to the samples tested.**

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- L Analyzed by another laboratory
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

**RL - Reporting Limit**

- C Calculated Value
- G Analyzed at IML Gillette laboratory
- J Analyte detected below quantitation limits
- M Value exceeds Monthly Ave or MCL or is less than LCL
- O Outside the Range of Dilutions
- X Matrix Effect

Reviewed by:

John Jacobs, Project Manager



## Inter-Mountain Labs

Sheridan, WY and Gillette, WY

## - CHAIN OF CUSTODY RECORD -

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All shaded fields must be completed.

This is a legal document; any misrepresentation may be construed as fraud.

#WEB 10127

|   |  |   |  |   |  |  |  |
|---|--|---|--|---|--|--|--|
| Client Name<br><b>Consolidated Analytical Systems (CAS)</b>   |  | Project Identification<br>S.H. Bell - Chicago, IL |  | Sampler (Signature/Attestation of Authenticity)<br><i>[Signature]</i>                         |  | Telephone #<br>513-542-1200                      |  |
| Report Address<br>201 S. Miami Avenue<br>Cleveland, OH 45002  |  | Contact Name<br>Meredith Cloran                   |  | ANALYSES / PARAMETERS<br>PM10 Gravimetric A<br>IO-3.1 for air filters<br>IO-3.5 Metals on air |  |  |  |
| Invoice Address<br>201 S. Miami Avenue<br>Cleveland, OH 45002 |  | Email<br>mcloran@cas-en.com                       |  |   |  |  |  |
| Phone<br>513-542-1200   |  | Purchase Order #<br>17-2507                       |  | Quote #<br>CAS1702231   |  | REMARKS  |  |
| LAB ID<br>(Lab Use Only)                                      |  | DATE<br>SAMPLED                                   |  | TIME<br>SAMPLED   |  |  |  |
| Matrix  |  | # of<br>Containers                                |  | PM10 Gravimetric A  |  | IO-3.1 for air filters                           |  |
| IO-3.5 Metals on air  |  |   |  |   |  |  |  |
| 1   |  | 01707421-00                                       |  | 7/18/17   |  | S4HV1-071817-R                                   |  |
| FT  |  | 1   |  | x   |  | x  |  |
| 2   |  | 7/20/17   |  | 7/20/17   |  | S4HV2-072017-R                                   |  |
| FT  |  | 1   |  | x   |  | x  |  |
| 3   |  |   |  |   |  | MMDDYY   |  |
| 4   |  |   |  |   |  |  |  |
| 5   |  |   |  |   |  |  |  |
| 6   |  |   |  |   |  | Date Mailed = 7/20/17                            |  |
| 7   |  |   |  |   |  |  |  |
| 8   |  |   |  |   |  |  |  |
| 9   |  |   |  |   |  |  |  |
| 10  |  |   |  |   |  |  |  |
| 11  |  |   |  |   |  |  |  |
| 12  |  |   |  |   |  |  |  |
| 13  |  |   |  |   |  |  |  |
| 14  |  |   |  |   |  |  |  |
| LAB COMMENTS  |  | Relinquished By (Signature/Printed)               |  | DATE  |  | TIME   |  |
|   |  | <i>[Signature]</i> STEVE KROON                    |  | 7/20/17   |  | 11:00A   |  |
|   |  | <i>[Signature]</i> Mary Hanning IML               |  | 7/27/17   |  | 11:22  |  |
|   |  |   |  |   |  |  |  |
|   |  |   |  |   |  |  |  |
| SHIPPING INFO   |  | MATRIX CODES                                      |  | TURN AROUND TIMES   |  | COMPLIANCE INFORMATION                           |  |
| <input type="checkbox"/> UPS                                  |  | Water WT  |  | <input checked="" type="checkbox"/> Standard turnaround                                       |  | Compliance Monitoring ? Y                        |  |
| <input type="checkbox"/> FedEx                                |  | Soil SL   |  | <input type="checkbox"/> RUSH - 5 Working Days  |  | Program (SDWA, NPDES,...) CAA 114a               |  |
| <input type="checkbox"/> USPS                                 |  | Solid SD  |  | <input type="checkbox"/> URGENT - < 2 Working Days  |  | PWSID / Permit #                                 |  |
| <input type="checkbox"/> Hand Carried                         |  | Filter FT   |  | Rush & Urgent Surcharges will be applied  |  | Chlorinated? N                                   |  |
| <input type="checkbox"/> Other                                |  | Other OT  |  |   |  | Sample Disposal: Lab x Client                    |  |
|   |  |   |  |   |  | Filter identification(mmddyy) Filter number(---) |  |
|   |  |   |  |   |  | S4HV1-071817-R 527.171                           |  |
|   |  |   |  |   |  | S4HV2-072017-R 527.172                           |  |

MOVED TO  
COC 10128MOVED TO  
COC 10128



Survey Meter # Model 2241-2; SN 182115  
 pH strip lot # HC54770  
 Thermometer SN# 27130475

### Condition Upon Receipt (Attach to COC)

#### Sample Receipt

1 Number of ice chests/packages received: OTC ROI? Yes No

Note as "OTC" if samples are received over the counter, unpackaged

2 Temperature of cooler/samples. (If more than 8 coolers, please write on back)

Temps Observed (°C): —  
 Temps Corrected (°C): —

Acceptable is: 0.1° to 10°C for Bacteria; and 0.1° to 6°C for most other water parameters. Samples may not have had adequate time to cool following collection. Indicate ROI (Received on Ice) for iced samples received on the same day as sampled, in addition to temperature at receipt.

Client contact for temperatures outside method criteria must be documented below.

3 Emission rate of samples for radiochemical analyses < 0.5mR/hr? Yes No N/A  
 4 COC Number (If applicable): WEB 10127  
 5 Do the number of bottles agree with the COC? Yes No N/A  
 6 Were the samples received intact? (no broken bottles, leaks, etc.) Yes No N/A  
 7 Were the sample custody seals intact? Yes No N/A  
 8 Is the COC properly completed, legible, and signed? Yes No

#### Sample Verification, Labeling & Distribution

1 Were all requested analyses understood and appropriate? Yes No  
 2 Did the bottle labels correspond with the COC information? Yes No  
 3 Samples collected in method-prescribed containers? Yes No  
 4 Sample Preservation:

| pH at Receipt:     | Final pH (if added in lab): | Preservative/Lot#                    | Date/Time Added:                 |
|--------------------|-----------------------------|--------------------------------------|----------------------------------|
| _____ Total Metals | _____ Total Metals          | HNO <sub>3</sub> _____               | _____                            |
| _____ Diss Metals  | _____ Diss Metals           | Filtered and preserved in metals     | Filtered and preserved in metals |
| _____ Nutrient     | _____ Nutrient              | H <sub>2</sub> SO <sub>4</sub> _____ |                                  |
| _____ Cyanide      | _____ Cyanide               | NaOH _____                           |                                  |
| _____ Sulfide      | _____ Sulfide               | ZnAcet _____                         |                                  |
| _____ Phenol       | _____ Phenol                | H <sub>2</sub> SO <sub>4</sub> _____ |                                  |

5 VOA vials have <6mm headspace? Yes No N/A  
 6 Were all analyses within holding time at the time of receipt? Yes No  
 7 Specially requested detection limits (RLs) assigned? Yes No N/A  
 8 Have rush or project due dates been checked and accepted? Yes No N/A  
 9 Do samples require subcontracted analyses? Yes No  
 If "Yes", which type of subcontracting is required? General Customer-Specified Certified

Sample Receipt, Verification, Login, Labeling & Distribution completed by (initials): KB

Set ID: 51707421

#### Discrepancy Documentation (use back of sheet for notes on discrepancies)

Any items listed above with a response of "No" or do not meet specifications must be resolved.

Person Contacted: \_\_\_\_\_ Method of Contact: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Initiated By: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Email: \_\_\_\_\_  
 Problem: \_\_\_\_\_  
 Resolution: \_\_\_\_\_